June 23, 1995

Mr. E. E. Fitzpatrick, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: CONTAINMENT PURGE (TAC NOS. M91956 AND M91957)

Dear Mr. Fitzpatrick:

The Commission has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-58 and Amendment No. 181 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated March 31, 1995.

The amendments modify the containment ventilation system TS and its associated Bases to allow limited purge operation in Modes 1, 2, 3, and 4 for pressure control, ALARA, and respirable air quality considerations.

A copy of our related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by

John B. Hickman, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosures: 1. Amendment No. 195 to DPR-58
2. Amendment No. 181 to DPR-74
3. Safety Evaluation

cc w/encl: See next page

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DATED: June 23, 1995

AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-58-D. C. COOK-UNIT 1
AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-74-D. C. COOK-UNIT 2

Docket File
PUBLIC
PDIII-1 Reading
E. Adensam (e-mail)
J. Hannon
C. Carpenter
C. Jamerson
J. Hickman (2)
OGC
G. Hill, IRM (4)
C. Grimes, O-11F23
C. L. Miller
ACRS (4)
OPA
OC/LFDCB
W. Kropp, RIII
SEDB

cc: Plant Service list

Mr. E. E. Fitzpatrick
Indiana Michigan Power Company

cc:

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, Michigan 48913

Township Supervisor
Lake Township Hall
P.O. Box 818
Bridgman, Michigan 49106

Al Blind, Plant Manager
Donald C. Cook Nuclear Plant
1 Cook Place
Bridgman, Michigan 49106

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
7700 Red Arrow Highway
Stevensville, Michigan 49127

Gerald Charnoff, Esquire
Shaw, Pittman, Potts and Trowbridge
2300 N Street, N. W.
Washington, DC 20037

Mayor, City of Bridgman
Post Office Box 366
Bridgman, Michigan 49106

Special Assistant to the Governor
Room 1 - State Capitol
Lansing, Michigan 48909

Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
Department of Public Health
3423 N. Logan Street
P. O. Box 30195
Lansing, Michigan 48909

Mr. S. Brewer
American Electric Power Service
Corporation
1 Riverside Plaza
Columbus, Ohio 43215

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated March 31, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 195 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John B. Hickman, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 23, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 195

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE	INSERT
3/4 6-9a	3/4 6-9a
B 3/4 6-2a	B 3/4 6-2a

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 The containment purge supply and exhaust system shall be closed except when operation of the containment purge system is required for pressure control, ALARA, and respirable air quality considerations for personnel entry, and for surveillance testing and maintenance activities. No more than one purge supply path and one purge exhaust path shall be open at a time.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one containment purge supply and/or one exhaust isolation valve inoperable, isolate the affected penetration by use of at least one automatic valve secured in the closed position, and, within 72 hours, either:

1) Restore the inoperable valve to OPERABLE status, or,

2) Deactivate the automatic valve secured in the closed position.

b. Operation may then continue until performance of the next required valve test provided that the automatic valve secured in the closed position is verified to be deactivated in the closed position at least once per 31 days.

c. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The surveillance requirements of Technical Specification 3/4.6.3.1 apply.

3/4.6.1.7 CONTAINMENT PURGE AND EXHAUST ISOLATION VALVES

This specification ensures that the containment purge supply and exhaust isolation valves are closed for the majority of the time during normal operation. It allows for containment PURGING to support pressure control, ALARA, and respirable air quality considerations for personnel entry, and for surveillance testing and maintenance activities up to 240 hours each year for each unit. The containment purge system is designed in accordance with the requirements of NRC Branch Technical Position CSB 6-4, Rev. 1. This includes, but is not limited to, an analysis of the impact of PURGING on ECCS performance, an evaluation of the radiological consequences of a design basis accident while PURGING, and limiting PURGE operation to using no more than one supply path and one exhaust path at a time. The purge isolation valves have been demonstrated capable of closing against the dynamic forces associated with a loss-of-coolant accident and are assured of receiving a Containment Ventilation Isolation signal. Therefore, the SITE BOUNDARY dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during containment PURGING operations. The use of the pressure relief (vent) line is allowed for containment pressure control.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181
License No. DPR-74

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated March 31, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 181 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John B. Hickman, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 23, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 181

FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE	INSERT
3/4 6-9a	3/4 6-9a
B 3/4 6-2a	B 3/4 6-2a

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 The containment purge supply and exhaust system shall be closed except when operation of the containment purge system is required for pressure control, ALARA, and respirable air quality considerations for personnel entry, and for surveillance testing and maintenance activities. No more than one purge supply path and one purge exhaust path shall be open at a time.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one containment purge supply and/or one exhaust isolation valve inoperable, isolate the affected penetration by use of at least one automatic valve secured in the closed position, and, within 72 hours, either:

1) Restore the inoperable valve to OPERABLE status, or,

2) Deactivate the automatic valve secured in the closed position.

b. Operation may then continue until performance of the next required valve test provided that the automatic valve secured in the closed position is verified to be deactivated in the closed position at least once per 31 days.

c. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The surveillance requirements of Technical Specification 3/4.6.3.1 apply.

3/4.6.1.7 CONTAINMENT PURGE AND EXHAUST ISOLATION VALVES

This specification ensures that the containment purge supply and exhaust isolation valves are closed for the majority of the time during normal operation. It allows for containment PURGING to support pressure control, ALARA, and respirable air quality considerations for personnel entry, and for surveillance testing and maintenance activities up to 240 hours each year for each unit. The containment purge system is designed in accordance with the requirements of NRC Branch Technical Position CSB 6-4, Rev. 1. This includes, but is not limited to, an analysis of the impact of PURGING on ECCS performance, an evaluation of the radiological consequences of a design basis accident while PURGING, and limiting PURGE operation to using no more than one supply path and one exhaust path at a time. The purge isolation valves have been demonstrated capable of closing against the dynamic forces associated with a loss-of-coolant accident and are assured of receiving a Containment Ventilation Isolation signal. Therefore, the SITE BOUNDARY dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during containment PURGING operations. The use of the pressure relief (vent) line is allowed for containment pressure control.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-58

AND AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated March 31, 1995, the Indiana Michigan Power Company (the licensee) requested amendments to the Technical Specifications (TS) appended to Facility Operating License Nos. DPR-58 and DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2. The proposed amendments would revise the Limiting Condition for Operation (LCO) for TS 3/4.6.1.7 to redefine the conditions under which it is permissible to operate the containment purge system in Modes 1, 2, 3, and 4. The proposed modification to the LCO would read:

> "The containment purge supply and exhaust isolation valves shall be closed except when operation of the containment purge system is required for pressure control, ALARA [as low as is reasonably achievable], and respirable air quality considerations for personnel entry and for surveillance testing and maintenance activities."

Additionally, the Bases for TS 3/4.6.1.7 would be revised to address the changes to the LCO, to increase the allowable annual purge time from 200 hours to 240 hours, to add a reference to the ability of the purge isolation valves to close against loss-of-coolant accident (LOCA) forces in order to meet 10 CFR Part 100 guidelines, and to delete an unnecessary footnote.

2.0 EVALUATION

The purge supply and exhaust system is designed to reduce airborne radioactivity within the containment structure to safe levels prior to entry. Purge air is supplied to the containment through two fans with associated filters and heating coils. Purge air is exhausted to the plant vent where it is radiation-monitored before release to the atmosphere. There are four containment penetrations for this system: one supply and one exhaust air penetration into the upper containment and one supply and one exhaust air penetration into the lower containment. Each penetration has two air-operated fail-closed isolation valves (one on either side of the penetration). The valves will receive a containment ventilation isolation signal on both

safety injection and high radiation signals and close within 5 seconds. These valves are normally closed when the purge system is not in operation. The purge system does not have short-term function if there is a LOCA. The purge system may be energized so that entry may be made. The maximum purge rate is approximately 1½ air changes of the total containment volume per hour.

The proposed change to LCO 3.6.1.7 would allow use of the containment purge system for pressure control, ALARA, and respirable air quality considerations for personnel entry and maintenance and surveillance activities. Currently, use is only allowed for "safety-related reasons." "Safety-related reasons" is defined in the Cook TS Bases as "the need to improve containment working conditions, e.g., reduce airborne activity, to perform surveillance and/or maintenance on a safety-related system or piece of equipment." The licensee states that the limitation of safety-related reasons to surveillance and/or maintenance on ***safety-related*** (emphasis added) systems or equipment has inhibited the use of containment purge for personnel work on "non-safety" equipment. This potentially exposes personnel to an unnecessarily hazardous environment.

The licensee has stated that the containment purge system at Cook has been designed in accordance with NRC Branch Technical Position CSB 6-4, Rev.1, and demonstrated to be capable of closure against the dynamic forces associated with a LOCA. In accordance with the Branch Technical Position, the potential site boundary doses were calculated based on the original analysis used to determine the radiological consequences of a LOCA. The results of this analysis indicated a total thyroid dose of 165 rem for the 0-2 hour site boundary dose and a whole-body dose of 9.32 rem. Since physical changes will not result from the proposed amendments, the site boundary dose guidelines of 10 CFR Part 100 will not be exceeded in the event of an accident during containment purging operations.

The proposed change is consistent with NUREG-1431, the *improved* Standard Technical Specifications Westinghouse Plants, September 1992 (*i*STS). The *i*STS require the purge valves to be closed except when "open for pressure control, ALARA or air quality considerations for personnel entry, or Surveillances that require the valves to be open."

Based on the facts that compliance with 10 CFR Part 100 is not affected by the proposed change and the change is consistent with the *i*STS and other TS issued by the staff, the proposed change to LCO 3.6.1.7 is acceptable.

The licensee has also proposed changes to TS Bases 3/4.6.1.7. The most significant is to increase the current purge limit of 200 hours per year to 240 hours. The original limit was calculated based on a unit capacity factor of 77%. As a result of longer operating cycles and improved plant performance, the Cook Nuclear Plant capacity factor is now forecasted to be 93%. Utilizing the same calculation which established the 200-hour limit, and increasing the capacity factor to 93%, yields a value of 240 hours.

The licensee has stated that the addition of 40 hours of allowable annual purge time will not result in a significant increase in the amount of effluent released. Licensee compliance with the Offsite Dose Calculation Manual (ODCM)

will ensure that the dose rate at any time at the site boundary from gaseous effluent from all units on the site will be within the annual dose limits of 10 CFR Part 20, Appendix B, Table 2, Column 1 for Unrestricted Areas.

This change is consistent with TS issued for other facilities and is within the guidance of the *i*STS which provides no specific limitation of the allowable time per year for purging operations. Based on the licensee's commitment per its ODCM to monitor and, as appropriate, limit offsite releases, the proposed change to increase the purge limit is acceptable.

The other proposed changes to Bases section 3/4.6.1.7 support the previous changes and are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding (60 FR 20520). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John B. Hickman

Date: June 23, 1995